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IS IT ADVISABLE TO USE OVERSIZED POTATOES FOR SEED PURPOSES?[1]

P. M. Lombard

With the more or less universal adoption of U. S. Grade Standards in the marketing of table stock, and the rather stringent grading rules now generally practiced in potato seed certification, it is becoming increasingly difficult to find a market for overgrown tubers except in localities fortunate enough to have starch factories.

In the absence of reliable data on the behavior of overgrown tubers when planted, a study of this question was undertaken in 1922 and continued through 1923 and 1924. Overgrown tubers of the Irish Cobbler and Green Mountain varieties were selected from the general run of stock and compared with the the average run of stock remaining after the removal of the overgrown and undersized tubers. The two lots of tubers were cut to 2-ounce sets all three seasons but in 1924 all eyes in excess of one were removed from each set prior to planting it. The sets were planted in rows 3 feet apart and spaced 14 in. apart in the row. In each of the three seasons over which the experiment extended four 100th acre rows were planted with each class of seed. Data were taken each season on the average weight of the overgrown and medium sized tubers used in the experiment, the percentage of germination, number of stems per set and the yield of primes and culls both in number and weight per set and per row. The average weight of the Irish Cobbler oversized tubers used for seed for the years 1922, 1923 and 1924 were 14.72, 16.73 and 12.2 ounces, whereas those used for checks or the medium sized ones averaged 5.5, 4.58 and 3.9 ounces respectively. In the case of the Green Mountain the average weights were 15.2, 13.12 and 15.97 ounces as against

1 Substance of a report to be printed in full at a later date in a Department Bulletin.

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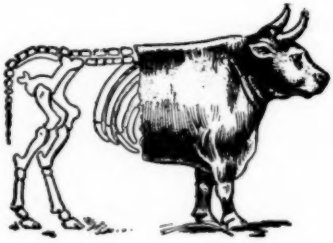

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7.6, 5.85 and 5.8 ounces for medium sized tubers. The three-year averages for the two varieties were as follows 15.9 and 4.6; 14.7 and 6.1 ounces respectively. In germination the 3-year averages show 97.5 and 99.8 for the Irish Cobbler and 97.8 and 98.4 per cent for the Green Mountain. The slight differences are in each case in favor of the check.

It is interesting to note that sets from the normal sized tubers averaged a somewhat larger per cent of stems than from the overgrown but the difference was very slight in the case of the Green Mountain.

The 1924 data are interesting in that they indicate no marked difference in number of stems produced from large and medium sized tubers when each set was reduced to a single eye.

Comparative yields. A study of the yields obtained from overgrown and normal sized tubers fails to indicate any marked superiority of sets from average sized tubers over those from overgrown ones. The Irish Cobbler yields of marketable potatoes from oversized tuber sets for the three years were 203.3, 288.8 and 200 bushels per acre respectively while that from the medium sized tuber sets were 172.1, 270.8, and 218.5. The three-year averages were 230.7 and 220.5 bushels, while the total average yields were 256.3 and 256.8 bushels. In the case of the Green Mountain the merchantable yields from oversized tuber sets were 238.5, 185.8 and 261.3 bushels while sets from medum sized tubers yielded 241.9, 175.4 and 260.8. The three-year averages were 228.5 and 226.0 bushels per acre respectively. The total average production for the three years was 276.7 and 276.8 bushels per acre.

In summing up the data at hand the followng conclusions seem permissible:—

(1) That notwithstanding the marked differences in the average weight of the oversized and medium sized tubers of both varieties studied there was no appreciable differences in germination. There were, however, interesting differences between the Irish Cobbler sets of the first two seasons but these differences were nullified when all but one eye were removed from each set.

(2) That there is a fairly distinct correlation between the number of stems and the per cent of culls produced by the Irish Cobbler variety in the first two seasons.

(3) That the yields as a whole indicate there is no appreciable difference between the same weight sets from oversized and medium sized tubers.

(4) The evidence at hand warrants the statement that aside from requiring a larger number of pounds of oversized tubers to plant an acre of potatoes, their lack of salability make them a cheaper source of seed than those which grade U. S. No. 1.

MOSAIC VERSUS LEAFROLL

B. A. Brown, Connecticut Agr'l College, Storrs, Conn.

It has become increasingly evident that the **total** percentage of degenerative diseases in a strain of potatoes is not an accurate measure of the value of the strain for seed. This is especially evident when the amount of diseases is quite large, that is, more than is usually found in certified stock. Often one strain will carry only leafroll and another only mosaic, yet their total percentages of diseased plants are the same. An interesting question to table stock growers is,—Which has the greater effect in decreasing yields?

In Bulletin 126 of the Storrs Agricultural Experiment Station, the average yields of hills of the same strain of potatoes, effected with mosaic or leafroll, are given as 0.58 and 0.33 pounds respectively. This indicates that leafroll is much more important than mosaic in reducing the yields. Some recent data corroborate this opinion.

In growing over one hundred strains of potatoes each year in the source of seed tests at Storrs, conditions are propitious for the spread of degenerative diseases, for there are always at least a few strains carrying large percentages of those troubles. Nearly all the plants usually become infected if grown in the test plots for four or five years.

New seed of a certain strain of Green Mountains has been obtained from Maine each year since 1922. Seed has been saved at digging time each season, so that the 1925 series of plots contained new, one year old, two year old, and three year old substrains. Strangely enough the stock grown here for three years outyielded by twenty-eight bushels per acre that grown here for two years. This was so unusual that a reason was sought to explain it. The **total** percentages of diseases were practically the same,—40.5 and 39.5, but the diseases constituting that total were entirely different. These are shown in the following table and indicate that the twenty-four per cent difference in leafroll was much more important than the 22.5 per cent difference in mosaic.

	Bushels per acre	Percentages of Mosaic	Leafroll	Spindle Tuber	Total
Grown 2 years at Storrs	161	2.0	35.5	4.0	39.5
Grown 3 years at Storrs	189	24.5	11.5	4.0	40.5

The question of why different importations of the same strain and from the same source should vary so much in the kind of diseases with which they have become infected, is of interest also. As a rule, strains grown in the test plots, become infected with more leafroll than mosaic. Our records show that the sample received from Maine in 1922 had no mosaic and 1.1 per cent leafroll

and the reading on the 1923 sample was: mosaic 0.0 and leafroll 0.50 per cent. Thus it appears that both substrains started with practically the same precentage of leafroll and no mosaic.

But, if the percentages of mosaic and leafroll carried by the ten nearest strains in 1922 and 1923 are averaged, it is found that the sample of new seed in 1922 was exposed to neighboring plots (single row plots) averaging 15.05 per cent mosaic, while the ten adjacent plots in 1923 averaged only 1.56. The percentages of leafroll are practically the same in both years,—3.37 and 3.26 respectively. Moreover, the strain planted as a check in every fifth row throughout the field in 1922 averaged ten per cent mosaic and 2.6 per cent leafroll, whereas the 1923 check strain carried only 0.54 and 1.16 per cent. It is evident that the 1922 importation although free from mosaic that year, became well infected by being grown near other strains carrying large percentages of that trouble. This primary infection has increased rapidly and after three years, the percentage of mosaic is over twice as large as the percentage of leafroll, in spite of the fact that the latter usually spreads more rapidly here. This raises the question of whether an infection of one degenerative disease doesn't offer a certain amount of immunity to other and perhaps more serious troubles?

JUDGMENT OF SOLANUM: A DISSERTATION ON THE GRADING PROBLEM

Harold L. Bailey, Department of Agr., Montpelier, Vt.

Since seed certification can hardly stop with the harvesting of the crop from the fields which have passed muster, we have to face a perplexing and troublesome problem—perhaps the most difficult in the whole project—arising from the grading, shipping and later treatment of the tubers and the psychology of the various parties to the sales. Perhaps, to be fashionable, we should call it the grading complex, for while troubles such as chilling or heating in transit and those due to improper handling after shipment will occasionally appear, the basis of the majority of these controversies is the question of grading.

Regulations of the Vermont Department of Agriculture provide that certified seed potatoes, sold under the tags of the Department, must be inspected by an authorized inspector before being shipped. If the buyer is willing to accept them without tags, no shipping inpection is required though the same rules for grading apply. Few are shipped without tags now.

U. S. Grade No. 1 is the basis of the Vermont requirement for grading. It is amended so as to allow not more than 10 per cent, by weight, of tubers seriously affected by rhizoctonia, 1 per cent spindle-tuber, and 5 per cent oversize, taking 14 ounces as a maximum for the long varieties and 10 ounces for the round varieties.

This makes a rather specific set of rules, perfectly simple of application, you would say. That is, you would say so if you had had no experience in these things. Probably they are as simple and practicable as most grading rules; and they are perfectly simple of application where the lot of potatoes is manifestly GOOD or manifestly BAD. But he who is familiar with potato inspection knows that a surprisingly large number of the lots of tubers examined show an aversion to aligning themselves with either of these parties. They hang around the border line and their classification has to be determined by the judgment of the inspector based upon his instructions and training. In Vermont and, we assume, elsewhere, those in charge of this inspection work have determined upon their interpretations of their own rules and the inspectors are taught to apply these interpretations. This is not the fundamental question, but rather; do the rules and their application in Vermont or New Brunswick, for instance, produce a grade of potatoes similar to those put out under the certification services of New York, North Dakota, and other states; and is the grade produced as good as the buyer can reasonably expect, or, on the other hand, is it more exacting than the shipper can reasonably be expected to put up?

Words and phrases in the rules may seem entirely clear-cut on casual reading but prove exceedingly hazy in their meaning under the acid test: "Does this lot pass; or does it not pass?" Percentage of oversize or undersize can definitely be determined; so can visible rot; but what about injury by cutting, bruising, etc., injury by scab and "serious infection of rhizoctonia?" U. S. Grade No. 1 has an explanation as "injury" as that which would cause appreciable loss in the ordinary preparation of the tubers for food, or that would be noticeable on casual inspection of the lot. Well! "appreciable loss" to a disciple of Poor Richard might not be "appreciable loss' to an army "K. P."; and "casual inspection" might reveal much more to a Sherlock Holmes than to a Dr. Watson, as is well known. "Serious infection of rhizoctonia" to a new buyer of a small lot of certified seed, expecting to receive stock fit for prize exhibition, is not serious infection to the experienced grower who habitually treats his seed with corrosive sublimate.

Probably, under the best scheme that can be devised there always will be room for the exercise of "horse sense" in inspection decisions, and rightly so. But it is the thought of the writer that many misunderstandings, disputes and perhaps litigation, could be obviated if the shippers on the one hand and the purchasers on the other could be brought to a more nearly common viewpoint as to what should be expected in the sorting and grading of certified seed.

For this purpose a thorough interchange of ideas as to standards and the practice of their application would seem to be necessary; and uniformity among the states and provinces in this phase of the work should be as desirable as in field inspection methods.

Means should then be taken to acquaint in fuller measure both buyers and producers with the facts as to just what each is entitled to in the putting up of certified seed potatoes. There is a field here for the American Potato Journal as well as for publicity in the farm press as a whole and for talks and circulars.

There is not, as a rule, a deliberate attempt upon the part of the producer to put upon the market a misrepresented product. Instances of this sort of thing are few and usually they are easily detectable. Nor are the cases many in which the complaining buyer is simply looking for sufficient cause to break his contract. Rather, there is a variance of judgment between the parties of the first part and the parties of the second part, with the possibility of inspector being between the two fires. Here, perhaps is our opportunity to ask forgiveness for our poor play on words in the title of this article, and to plead extenuating circumstances. Are the demands upon the inspector in the judgment of **Solanum tuberosum** sometimes so much less than were those upon Solomon in a more celebrated case of judgment?

This discussion is all aside from the matters of education the producers of certified seed in the methods of grading, use of appliances, light, etc. It underlies these, important as they are, and looks toward the elimination so far as possible of a field now fertile in the possibilities for discord. May we not have a round table discussion on the subject?

IMPROVING THE MARKET QUALITY OF POTATOES

E. V. Hardenburg, Cornell University

A study of wholesale market price quotations on potatoes in certain of our larger Eastern markets reveals a surprising differential between the prices for potatoes from the various regions on almost any given day. This differential frequently raises the question as to the cause of these differences. Since neither wholesale nor retail prices are influenced by freight charges, this differential is either not justified or must be ascribed to some difference in market quality. The term "market quality" is used here as in no sense referring to culinary quality, since it has not been proven that culinary quality is an important factor in determining market demand. The factor of appearance probably has more to do with market quality than any other single item. Just as red color in apples and whitness of shell in eggs command most respect in our Eastern markets, so brightness of skin, freedom from blemish, and uniformity in size are most important in creating and holding market demand for potatoes.

The usual price differential between Western New York and Long Island potatoes on the New York market ranges from fifty cents to one dollar per hundredweight. This difference obtains more or less regardless of the average price of potatoes on a given

day. We are beginning to realize that most, if not all, of this surprisingly wide range in price is justified on the basis of difference in market quality. At this point it should be said, in justice to the Western New York grower, that a large part of the inferior quality of his product is due to conditions more or less outside of his control, under which the crop is produced. The almost universal practice of planting potatoes on sod land in heavy soil and of the Rural type results in a product subject to rather dark skin and considerable tuber insect injury. In contrast to such conditions, the Long Island and Maine growers are producing the crop in a light soil conducive to bright-skin potatoes, largely of the Green Mountain type, and therefore, resulting in a product not subject to the defects so common in Western New York stock. Without the utmost attention to choice of soil type, the control of tuber insects, close planting to prevent oversized tubers and hollow-heart, and thorough spraying for blight control, the Western New York grower cannot hope to produce a crop equal in quality to that of his Long Island and Maine competitor.

Estimates published annually by the U. S. Bureau of Agricultural Economics show that only two-thirds of the potato crop as produced in the country is fit to grade U. S. No. 1. Included in the remainder of the crop below grade are 16 per cent due to small size, 6 per cent due to late blight or other disease affecting keeping quality, and 8 per cent due to the more common defects. This indicates a surprisingly large wastage in a crop so expensive to produce. Altho much of this inferiority in grade is excusable because of the conditions under which the crop is necessarily grown, yet the above figures ought to stress the importance of more attention to the improvement of market quality by more efficient practices.

Recent studies of potato marketing in New York show that of the dollar paid for potatoes by the consumer, the gross margin taken by the retailer is 35 per cent, the wholesaler 5 per cent, the jobber 5 per cent, the local shipper, including freight, 20 per cent; the grower receiving 35 per cent. Under our present expensive marketing system there appears to be no panacea for increasing this percentage to the grower. The marketing studies referred to above have well illustrated how the wholesale price of potatoes delivered in car-lots at the primary market includes 19 per cent in freight, 18 per cent in operating costs of the shipper, 1.4 per cent in claims and allowances, and 62 per cent in returns to the grower. This leaves little or no margin for the dealer above his legitimate salary. Increased returns to the grower must come thru a decrease in the operating and shipping costs, a decrease in claims and allowances, or thru an increase in the consumption of potatoes. Of these three the most promise lies in decreasing the loss from claims and allowances and increasing the consumptive demand.

Advertising in its various phases can probably do very little to increase consumption. Of an article so staple as the potato, even though its food value is not sufficiently appreciated from the stand-

point of price in comparison to other similar foods, market demand will increase just in proportion as the public finds and learns to appreciate potatoes of better market quality.

The Program in New York

The New York State College of Agriculture recently made a rather thorough study of potato marketing requirements in New York City in order to better relate the status of the quality of the Western New York product with that from other competing regions. As a result, both growers and shippers have been brought into closer contact not only with the facts, but with the necessity of so organizing both cultural and shipping practices so as to better withstand the prevailing competition.

The very general increase in the use of certified seed has resulted in not only increased yields, but in a standardization of varieties in the surplus-producing regions. This movement has not, however, helped in any way to eliminate the principal factors affecting market quality, the more outstanding of these being wire-worm and grub injury, dark-skinned tubers, hollow-heart injury and dry rot. The more progressive growers are adopting remedial measures. These consist in a choice of the better adapted soils, the use of a shorter rotation to avoid wire-worm injury, closer spacing of the plants to reduce hollow-heart, more attention to blight thru bordeaux spraying and the use of white-skinned varieties in preference to the Russet type of Rural.

There still remains the less progressive grower with whom it has always been difficult to establish contact. Potato shippers throughout the surplus car-lot shipping districts are cooperating nicely in bringing pressure to bear upon these lastnamed growers by agreeing to accept nothing but table stock which more than meets the U. S. No. 1 grade requirements. In these ways only can the producer hope to get a larger proportion of the consumer's dollar and to increase the consumption of his product.

POTATO PRICES BREAK ALL RECORDS SINCE 1920

(Contribution from the Fruit and Vegetable Division, Bureau of Agricultural Economics, U. S. Department of Agriculture)

All recent records were broken by the phenomenal rise in potato prices during the latter part of March and the early part of April. During the five weeks, ending April 8, there was an average gain of $1.70 per 100 pounds in the f. o. b. quotations on eastern and Maine potatoes, and an advance of $1.25 in the North Central region. Idaho shippers were getting $1.85 more than during early March, and growers in Colorado received an advance of at least $1.50. Shipping-point values jumped more rapidly than the city market prices, thus indicating the increasing shortage of stocks in country sections and the unusual strength of the f. o. b.

markets. The general gain over the early March jobbing quotations in eastern cities was about $1.30 per 100 pounds, and around $1.40 in Chicago. On April 8, the highest prices since 1920 were reported, as follows: Bulk Maine Green Mountains $5.60 per 100 pounds, f. o. b. Aroostook County points; sacked western New York Round Whites $5.45; North Central sacked potatoes mostly $4.75-$5.10 f. o. b.; Idaho Russet Burbanks $4.65-$4.75 cash track, with returns to Colorado growers ranging between $4.00 and $4.55. Local reports about April 1 indicated possibly less than 5,000 cars remaining to be shipped from Maine and about 1,500 from Idaho. Sales to jobbers in eastern terminal markets were mostly within a range of $5.15-$5.85 on sacked New York and Pennsylvania Round Whites, and $5.85-$6.25 on Maine Green Mountains. Bulk Long Island Green Mountains topped the New York City market at $6.10-$6.25 per 100 pounds. Chicago carlot sales of sacked Northern Round Whites were reported at $5.10-$5.25, while Idaho Russets averaged 10 cents above northern stock. On the Cincinnati market, Red River Ohios brought $5.00 and Idaho arrivals $5.50. About the same time in 1920,—the last year of serious shortage,—the Chicago price of northern sacked stock was approximately $7.00, and in April, 1925, average sales were close to 90 cents.

One of the sensations was the Philadelphia top of $20.00 per barrel on U. S. No. 1 Spaulding Rose from Florida. In March 1923 and 1924, when there was either a light Florida crop or light supplies of old potatoes, the average jobbing price was only $14.00 but in 1920 Florida potatoes did not reach the market until April, opening then at $18.00-$20.00. Shipments from Florida during the opening week of April were only 12 cars, as against 330 during the same week last season and 100 cars in 1924. First cars had rolled also from the Brownsville section of South Texas. Prices of these early shipments from the Rio Grande Valley were 7 cents per pound on a usual terms basis, 6½ cents cash track, or 6 cents to the grower. The Dallas and Fort Worth markets reported this stock at $7.75, and sacks weighing 110 to 115 pounds were jobbing in Kansas City at $10.50-$11.00. More than 1,000 cars are expected from the Lower Valley. Bermuda Bliss Triumphs brought $15.00-$16.00 per barrel in Detroit, while bushel crates of Cuban stock, partly graded, sold at $5.25-$5.50. A freeze delayed the potato crop in the Hastings section of Florida, and movement was not expected to get well under way until April 20, with peak shipments between May 10 and 20. All of which is good news to shippers of old potatoes.

General shortage in the East and South is reflected in the wide distribution of northern and western potatoes. Some cars from Michigan have been going as far east as New York City and south to Florida and Texas. Idaho potatoes have been selling in Washington, D. C., while Colorado shippers have sent some cars to Georgia, Florida and New York State, in addition to regular outlets in the Southwest. Even Nebraska has been taking some Col-

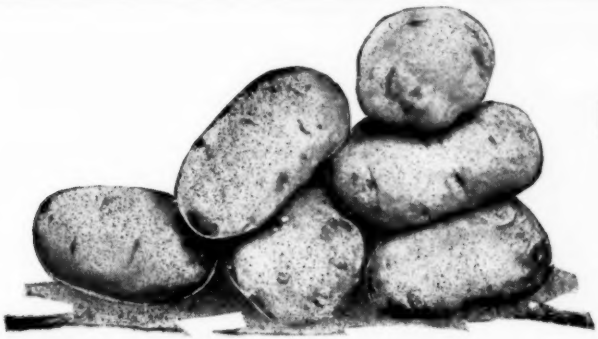
orado potatoes, thus indicating that Nebraska's holdings are much reduced. The Pacific Coast situation is not so promising, as holdings in coastal cities are two or three times as heavy as last spring. This affects the movement of potatoes from Idaho and Washington.

Notable Changes in Potato Plantings

Following the report of law stocks of old potatoes, growers throughout the South apparently felt that there should be good market outlet for new potatoes, and plantings were rapidly increased over the original intentions. In place of an 8 per cent decrease from the 1925 commercial acreage, as indicated a month ago, there now seems to be a net increase of 9 per cent in ten early States, or a total of 214,640 acres. Virginia is expected to have more than one-third of this total, with acreage very much like last year's. Florida's 23,000 acres is an increase of about 5 per cent. South Carolina and North Carolina show gains of one-fifth over last season, and Alabama an increase of nearly 50 per cent. California's early potato plantings probably are one-fourth greater than in 1925. The total probable increase in early stock is especially interesting in view of the high prices of seed, which might have been expected to restrict planting.

Early reports of the intended commercial acreage in eight mid-season states show a combined total of 82,910 acres, which is 7,000 less than last season and the lightest plantings in several years. Arkansas, Oklahoma, and South Central Nebraska may have slightly heavier acreage than in 1925, but decreases are indicated for all the other states. The greatest cut is in New Jersey, where only 24,000 acres of early potatoes are expected, as against 31,000 to 41,000 in the last few years. The Wichita and Hutchinson sections of Kansas are expected to have a surplus of potatoes for shipment this summer, instead of not enough for local needs.

For the country as a whole the acreage of potatoes now planned is about 4 per cent above the acreage grown in 1925 and 3 per cent below the acreage grown in 1924. This would be a reasonably safe and conservative acreage, if it were better distributed. In the Southern and Western States an increase of around 14 per cent over 1925 is planned or planted, but in the Northeastern and North Central States no increase at present is contemplated. For all the Southern States as a group, the propective acreage represents an increase of 13 per cent over the acreage grown in 1925 and 10 per cent over that grown in 1924. With average yields, an early acreage as large as that now planned should materially increase the present limited supply of potatoes by June and perhaps even earlier. In the states west of Montana and Colorado, profits from potatoes last season were exceptional and growers are now planning an acreage 14 per cent greater than that grown last year and 15 per cent greater than in 1924. This would seem to be the section where over-production is most likely to occur the coming season.



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Judging on the basis of weekly shipments and f. o. b. prices, it would appear that old potatoes are fast cleaning up at many shipping points. Since mid-March, carlot movement has been gradually decreasing in northern Maine and in Michigan and Wisconsin. During the opening week of April, Maine shipped only 830 cars, as against 1,300 a year ago. Movement from Michigan and Wisconsin was only about 250 cars each, compared with 400 during the same period last season. Though the output from New York points increased slightly, it still averaged only 45 cars daily, which is less than half of last April's corresponding movement. Good demand and high prices drew heavier shipments of 640 cars from Minnesota. A surprising feature of the whole situation was the continued heavy movement from Colorado and Idaho. Those two states together forwarded 940 cars during the week under consideration, or just twice the output during early April, 1925, and shipments were temporarily increasing. In fact, Idaho already this year had shipped practically as many potatoes as its estimated merchantable holdings on January 1. Surplus supplies long have been acknowledged in the State of Washington and the week's movement from that territory totaled 375 cars, as against 150 a

year ago. March usually is a heavy shipping period for potatoes. This March saw approximately 19,000 cars roll to market, compared with 21,600 during the same month last year. February's output was about 14,500 cars, and January shipments totaled nearly 16,000.

Seed Production Sharply Reduced

In 1925 the production of certified seed potatoes decreased to 3,744,363 bushels, which is little more than half the 1924 record production of 7,372,801 bushels, exclusive of the states of California, Idaho, Maryland, South Dakota, Washington, and Wyoming, for which no figures were obtained in 1924.

Of the varieties certified, Cobbler leads production with 1,163,593 bushels, followed by Green Mountain with 906,259 bushels, while Spaulding Rose, with 403,900 bushels, is third. In 1924 Green Mountain was most popular, with 2,616,360 bushels, while Cobbler was second, with 2,385,876 bushels. Production of other leading varieties in 1925 was as follows: Triumph, 265,705 bushels; Russet Rural 217,662; Netted Gem and Burbank Russet, 209,008 each; Rurals, 132,154; Early Ohio, 116,426; Idaho Rural, 38,458; Burbank, 16,100, and other varieties 78,405 bushels.

Below is a summary of the certified seed potato production on the basis of states during the past five years. A report, giving details for each state in 1925, is available from the Bureau of Agricultural Economics.

Certified Seed Potato Production, Five Years

State	1921 Bushels	1922 Bushels	1923 Bushels	1924 Bushels	1925 Bushels
California					12,050
Colorado				22,037	28,560
Idaho		160,000	92,500		278,148
Maine	204,085	297,500	2,140,875	5,052,681	1,787,350
Maryland	9,450	6,310	7,000		8,205
Michigan	116,950	315,758	272,794	291,086	214,656
Minnesota	456,935	338,100	511,588	777,800	596,605
Nebraska	44,885	84,955	192,880	79,750	121,200
New Hampshire	4,000	4,378	15,183	30,328	12,287
New Jersey	57,000	40,250	23,100	81,850	57,911
New York	147,000	304,500	239,031	363,065	235,876
Ohio	7,635	10,810	11,025	11,230	4,120
Oregon				15,900	27,600
Pennsylvania	25,000	67,827	52,151	65,000	25,965
South Dakota					23,600
Vermont	100,000	159,300	127,500	225,000	108,655
Washington	23,530	27,120	28,760		17,550
Wisconsin	214,500	300,000	387,875	357,074	163,025
Wyoming		100,000	70,000		21,000
Total	1,410,970	2,216,808	4,172,262	7,372,801	3,744,363
Me.	204,085	297,500	2,140,875	5,052,681	1,787,350
Outside Me.	1,206,885	1,919,308	2,031,387	2,320,120	1,957,013

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DUES

If you are in arrears with your dues, do your duty by taking care of this obligation at your earliest convenience. Make an effort to

do it immediately. The editor is too busy to be employed sending out notices to individuals. Therefore promptness will be more than appreciated.

MEMBERSHIP IS INCREASING IN WISCONSIN

During the last month Prof. J. G. Milward sent out a circular letter accompanied by a formed letter and an addressed envelope to the secretary-treasurer. This left very little for the recipient to do except to write his name and address, enclose a check and mail them. The response has been remarkably good and is going to be better. At present writing 35 new active members have joined our ranks as a result of this letter. It demonstrates what an influential man can do when he starts out. Prof Milward is not willing to stop part way. He is going to follow it up with another letter. What Prof. Milward is doing others can do.

NEBRASKA POTATO IMPROVEMENT ASSOCIATION

Recently this association sent in a check in payment of active membership in the Potato Association of America for its members. No potato growers' association could find a better means at so little cost to help its members. Also there is no better way than letting the local association handle the payment of their dues in the Potato Association of America.

IT PAYS TO ADVERTISE

There is no better advertising medium for seed potatoes, fertilizers, spray materials, and all kinds of machinery used in producing and marketing the crop, than the American Potato Journal. The leaders in the potato industry read this monthly publication and **the crowd follows the leaders.** If you wish to increase your sales advertise in the American Potato Journal. The rates are extremely low and **liable to be advanced soon. Contract now for space.**

The present rates are:—

	One month	Three mos. per mo.	Six mos. per mo.	One-yr. per mo.
Back outside cover page,	$25.00	$22.50	$20.00	$20.00
Inside cover pages	20.00	18.00	16.00	15.00
Regular page	15.00	13.50	12.00	11.00
One-half page	8.00	7.25	6.50	6.00
One-quarter page	4.50	3.75	3.50	3.00

Some of the most successful business men advertising constantly. There are a few who have been running advertisements in the American Potato Journal continually for nearly two years. It

is needless to say that these advertisers have made great impression upon the minds of the readers of this publication. The seed grower would find it profitable to advertise his stock every month in a year. Wouldn't it be a big relief to have part of the seed sold in advance and a deposit on it to insure the security of the sale? Buyers of potato machinery, fertilizers and spray material decide in their minds months in advance before they need it as to what they want and when the time comes buy it. The local dealer has it because the users have created the stimulus upon which he acted in stocking up for the season. Furthermore, this publication covers such a large area that it is distributed in planting, harvesting and marketing seasons practically twelve months in a year. **You will get your share of sales by advertising continually in the American Potato Journal.**

GEORGE SHIMA

On March 27 George Shima of Berkeley, California succumbed to a cerebral hemorrhage after a brief illness. In California this man has for many years been known as the "Potato King."

A brief history of George Shima should be of considerable interest and give encouragement to the potato growers. Forty years ago and at the age of 21, George Shima left his mother country, Japan, and landed in California as a penniless immigrant. Recently he was rated as the wealthiest Japanese outside of his homeland. He amassed a fortune of $15,000,000 by raising, buying and selling potatoes in the San Joaquin Delta section of California. At the time he started this land is considered practically worthless. His land holdings consisted of 100,000 acres, known as a potato ranch, near Sacramento. One year his net profit was placed at $2,000,000.

THE ROAD TO SUCCESS IN POTATO PRODUCTION

The editor was glad to learn that one man has made millions in raising and handling potatoes. How many readers of the American Potato Journal can improve their methods in growing potatoes and make a larger net profit? You know, most of you can. No grower can learn too much about raising and marketing potatoes.

Sometimes it only takes a few extra hours of labor to make the difference between a loss and a big margin of profit. For example the yield may be reduced by not cultivating properly, or cultivating too deep at a critical period, or too late in the season. Every operation should be performed with the object of increasing the net profit. Make net profit your goal in potato production and you will succeed. There may be one or many reasons why a potato crop is a failure on one farm and over the fence on a neighbor's farm it's a money maker. Most of such success can be contributed to not

being afraid of work and to the art of knowing how. Work becomes a pleasure to the successful person.

The principal object in publishing the American Potato Journal is to give the growers the best information concerning the potato crop. The articles are written with an unselfish viewpoint, that of helping others. No one gets a cent for writing articles and there are no paid officers. Everyone who contributes, does it in the spirit of helping the good cause along.

Therefore take advantage of every opportunity to learn more about this great industry of our country and put into practice the best methods for your region. By so doing you will get more pleasure out of growing potatoes and increase your finances.

CROP REPORTERS

Every reader of this publication is interested in learning about the crop in other sections. For this reason we are aiming to have better "Potato Notes Including Certification" than ever before. The men who are listed below have been appointed to report on the growing, storage and marketing the crop for their country, province or state. If you cannot serve kindly inform the editor and suggest another person who is well qualified.

E. D. McSweeney, Rosemead, Los Angeles, (southern) Calif.
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Earl M. Page, Univ. of Missouri, Columbia, Missouri.
F. M. Harrington, State College of Agr., Bozeman, Montana.
H. O. Werner, Expt. Station, Lincoln, Nebraska.
Dr. O. R. Butler, Durham, New Hampshire.
Dr. Wm. H. Martin, Expt. Station, New Brunswick, N. J.
Dr. E. V. Hardenburg, N. Y. State College of Agr., Ithaca, N. Y.
Worth G. Couey, Agr'l College, North Dakota.
Earl Jones, Ohio State Univ., Columbus, Ohio.
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J. W. Brann, College of Agr., Madison, Wisconsin.
A. F. Vass, Univ. of Wyoming, Laramie, Wyoming.

Canada

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O. C. Hicks, Dept. of Agr., Fredericton, New Brunswick.
J. F. Hockey, Kentville, Nova Scotia.
John Tucker, Ontario Agr'l College, Guelph, Ontario.
S. G. Peppin, Expt. Farm, Charlottetown, Prince Edward Island.
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Russia

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Scotland

Thos. P. McIntosh, 10 Craighouse Terrace, Edinburgh, Scotland.

POTATO NOTES

Maine.—The writer arrived at Presque Isle on the morning of March 30 for the season's work. The greenhouse operations were started soon after arriving.

There is plenty of snow in northern Aroostook and the snow is reported to be 4 to 5 feet deep in the woods. Tuesday and Wednesday were fine for this region, but today a snowstorm has been raging all day.

The market is easier today, the price ranging from $7.75 to $8.00 per bbl. The demand is strong for seconds for seed at $5.00 to $6.00 per barrel.—**P. M. Lombard, Apr. 1.**

Nebraska.—The Certified Seed Potato Growers in Nebraska, have had a very successful season. Most potatoes went to market at a price about $1.00 per cwt., above that received for uncertified Triumph potatoes. This year has witnessed the extension of the market for Nebraska Certified seed into almost every southern state from the Atlantic Ocean to Texas.

The Nebraska Certified Potato Growers Cooperative held their annual meeting on March 18. A very optimistic tone pervaded this meeting. With regard to future acreage, the situation seems to be that the establshed extensive certified seed growers will not increase their acreage and may in fact, decrase it somewhat, but that in each community there will probably be an increase in the number of fields due to new growers getting into the business or due to small growers increasing their acreage.

In the eastern part of the state, the Agricultural Extension Service has been putting on a seed potato treatment campaign. Energies were directed along the line of inducing the carlot dealers to treat the potatoes that they handle, using the hot formaldehyde method. All dealers cooperating and doing satisfactory work, have been supplied with tags that are atttached to all treated potatoes. These tags specify that the potatoes have been treated according to methods recommended by the Agricultural College. This service seems to be very much appreciated by the people using small quantities of seed potatoes. These people after all, in total, use more seed potatoes than the commercial growers throughout these corn belt areas. The dealers seem to very much appreciate the service rendered and are planning to continue the work during future years.—**H. O. Werner, April 2, 1926.**

Ohio.—Talking with potato growers in Ohio I find no sentiment among them for an increase in potato acreage. The commercial growers will probably plant about the same acreage as last year. The U. S. Dept. of Agriculture Crop Reporter for Ohio, states a prospective increase of 10 per cent in the potato acreage for 1926. Evidently this increase will be on farms where potatoes have not been commercially grown in the past.—**Earl Jones, March 24.**

Texas.—The writer has just completed a survey of the lower Rio Grande Valley and find that approximately 6,350 acres have been planted as a spring crop compared with 6,575 acres in 1925. At the present time the crop is in excellent condition and with continued favorable growing weather a light movement is looked for during the early part of April with the heavy movement during the last half of the month.—**Chas. Sperle, Truck Crop Specialist. March 10.**

Virginia.—Since the preliminary report on the early potato acreage in eastern Virginia as published in the March issue very little authentic data has been secured as to the exact acreage planted in this section. It is likely that several weeks will elapse before a very close estimate on the acreage can be secured. In the Eastern Shore Counties where the largest acreage is planted, the number of acres will be computed as soon as data can be obtained from the railroad and boat lines as to the exact tonnage of fertilizer shipped into that section. This will give a rather accurate indication of the acreage.

The acreage in Princess Anne County has been increased from twenty-five to thirty per cent over last year's planting, while in Norfolk County no increase is apparent. In the lower end of Northampton County probably a ten per cent increase in acreage has been planted this year, while in Accomac County there has been a slight reduction. It is likely that the total acreage will be about ten per cent greater than that planted in 1925, and only slightly greater than that of a ten-year average. Due to the un-

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Modern Potato Machinery

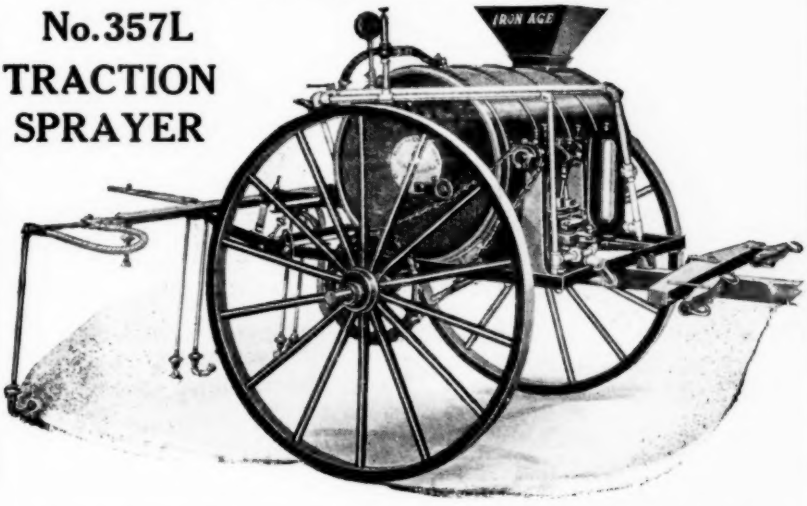
The Latest Approved after many years of Practical Experience

IRON AGE HIGH PRESSURE TRACTION SPRAYERS

Protect Your Crop. **Insure Your Profit.**

The No. 357L Traction Sprayer shown here has all the strong **IRON AGE** features, the new **Triplex Pump,** the new **IRON AGE Pressure Retainer** and **Pump Relief,** 100 gallon cylindrical tank.

No. 357L TRACTION SPRAYER



As shown here it is equipped with the celebrated twelve-nozzle Drop Bar for spraying four rows. This may be replaced with the regular eight-row Bar.

The Assisted Feed Potato Planter

known as the 100 per cent Planter, is unequaled for absolute accuracy in planting.

The Iron Age Potato Diggers

Traction or Engine-driven, have wide elevator, are easy-running and give thorough separation.

Write for catalogues describing these machines, also Garden Tools, Horse Hoes and Cultivators, etc.

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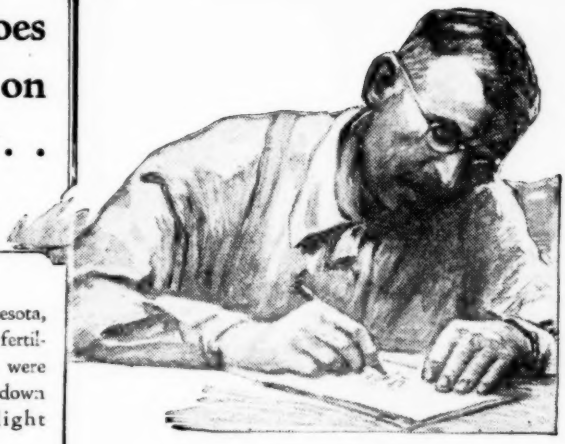
usually low temperatures which have prevailed during the past month the germination of the crop has been somewhat retarded and the potatoes will be a week to ten days late in appearing above the ground unless exceptionally warm weather appears in the near future. The bulk of the crop was planted before the unfavorable, wet, cold spell occurred. A few potatoes are still to be planted on some heavy types of soil where wet weather interfered with early planting. The writer has examined seed pieces which have been planted for several weeks and found very little rot present. The reports generally throughout the potato section indicate that the potato seed are in better condition than they have been in a number of years. Cool, wet weather has evidently retarded the development of fusariums and other diseases which cause potatoes to rot during periods of dry, warm weather. There is some possibility of rot developing even at this late date, but it is not likely that there will be as great a reduction in stand due to rot as occurred last year.—**H. H. Zimmerly, Mar. 31.**

NOTES ON RECENT LITERATURE

BUKASSOV, S. M.—The Potato in U. S. S. R. (Russia).—*Bul. of Applied Botany 15; No. 2, pp. 1-176, 1925.*

In this article the author briefly reviews the introduction of the potato into Russia from Holland at the beginning of the eighteenth century and its slow adoption as a staple food by the inhabitants of that country; in fact it required a series of famine years in the middle of the nineteenth century to fully demonstrate its economic importance as a table food. The total acreage in potatoes as compared with all cultivated crops in Russia in 1924 was 4.8 per cent. The subject matter of this paper is divided into three parts: (1) The survey of potato varieties in general; (2) the classification of the varieties distributed in Russia; (3) the survey of the present problems of potato breeding. The survey of potato varieties in general included a collection of nearly 1000 samples embracing almost all the actual and many of the old varieties of Europe and America, as well as local samples of U. S. S. R. In this survey special attention was given to the variation of every character having systematic value. In the case of the tuber only the color is regarded as a group character. The shape of the tuber is considered as a modified character and of secondary importance for classification purposes. Number and depth of eyes and shouldering are considered highly variable characters. White tubers are divided into three types; (1) White (light yellow) with white flesh; (2) Yellow with yellow flesh; and (3) russet with a thick periderm. Colored tubers are of two types,—red colored and blue colored. These two types are further divided; for example

Yes! Potatoes pay profit on muck soil . .



IN Minnesota, when not fertilized, vines were half frozen down by first light frost.

WHEN phosphoric acid and potash were applied, frost had little or no effect.

321 bushels extra per acre!

When no fertilizer was used on muck soil at Hollandale, Minnesota, the yield was 110 bushels per acre.

But when 600 lbs. per acre of 9½ per cent phosphoric acid and 27½ per cent potash were applied, the yield increased to 431 bushels per acre—an increase of 321 bushels. The above were U. S. No. 1 Irish Cobblers. Fertilizer was spread about 8 to 10 inches in row with planter.

At Island Farm, Floodwood, Minnesota, on high lime peat soil, 200 lbs. per acre muriate of potash yielded 247 bushels of marketable tubers. But when no fertilizer was used the yield was only 19 bushels per acre.

Other growers have produced good yields by using an 0-10-20 fertilizer at the rate of 750 lbs. per acre.

FIGURE IT YOURSELF

CAN you make good profit with potatoes on muck soil? Don't answer hastily . . . first make note of these facts . . . then figure!

Low lime peat soil, which some growers call "acid" or "sour" generally needs phosphoric acid and potash. If the land has been cropped for a period of years, nitrogen also is often needed and a complete high grade mixed fertilizer—in addition to lime—may be required.

High lime peat soil, which you may know by the terms "non-acid" or "sweet" is generally lacking in potash alone and the use of potash will result in profitable yields. Sometimes after a period of cropping phosphoric acid is also needed—the fertilizer in this case should be a high grade mixture of phosphoric acid and potash.

You may have noted yellow and bronze leaves on your vines and later in the season leaflets hanging limp and plants wilted. These are signs of potash hunger! You can detect lack of Phosphoric acid by delayed maturity of the crop.

When you order your mixed fertilizer for muck soil—especially for potatoes—ask for potash in the sulfate form. Many growers have found that sulfate of potash gives the best results!

FREE.—We are now mailing two useful booklets: "Muck Lands" and "Potatoes on Muck Land." If you would like to receive copies, just send your name and address to the office below!

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POTASH

those included under red colored may be flesh colored, rose or red colored, and the blue may be pale purple, purple, or blackish-blue. Likewise the color may be continuous or may alternate with uncolored patches. In the case of the stem the color of the sprout is regarded as a constant character and on this basis varieties are dvided into two principal groups; those with pink sprouts and with blue-purple sprouts. The author states that so-called white sprouts have anthocyan in the lenticels (not when germinated in the dark. W. S.). The characters of the stem are also suggested as a means of distinguishing varieties. Considerable emphasis is laid on leaf characters as a means of classifying varieties. In the case of the flower the number of clusters in one inflorescence, usually 2 and seldom 3 or more, is said to be characteristic of the variety. The shade of the color of the corolla corresponds to that of the sprouts and in consequence is regarded as an important systematic character. With pink sprouts the flowers are red purple, and with blue sprouts, blue-purple and blue. The anthers are classified as orange, yellow or greenish. The color of the mature fruit is classed as creamy white, red purple or blue-purple. The several existing classification systems are discussed after which the author presents his proposed classification key.—**W. Stuart.**

KLEIN, MILLARD A.—**Potato growing in the Delta of the San Joaquin.**—*California Cultivator, 64: 3, January 16, 1926.*

The author states that one-half of the potato crop of California is raised in the area known as the San Joaquin Delta region and that the delta is particularly fitted to the growing of potatoes because of the richness of the organic soil, the long growing season, abundant water supply, cheap transportation and proximity to markets. The soil varies from a brownish to black peat or muck.

The author gives a brief exposition of the preparation of the soil, preparing the seed bed, planting, varieties, source of seed, fertilizers, cultivating, diseases and insects, tillage, hilling or banking, drainage, growing period, harvesting, grading, marketing and costs of producing the crop in the delta region.—**Walter M. Peacock.**

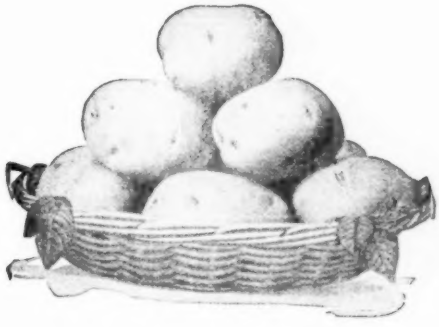
MURPHY, P. A., AND R. MCKAY.—**Investigations on the leaf-roll and mosaic diseases of the potato.**—*Journ. Dept. Lands. and Agr. Ireland* 25: *138-154. fig. 1-5, August, 1925, No. 2.*

Sprouting vigor, indexed by the method proposed by Schander and Richter, showed no relation to yielding capacity or to leaf-roll and mosaic. "Whatever effect virus diseases may have on the energy of sprouting—which is apparently small—it is frequently so masked by that of other factors that it is impossible to grade commercial samples of seed potatoes for their disease content or probable cropping capacity by reference to the vigour of their sprouts, as measured by the formula of Schander and Richter." Other methods of sprout indexing—selection of tubers with thick sprouts, strong sprouts, or apical dominance—also proved unreliable.

POTATO DISEASES

Prevented by use of

Mallinckrodt
CORROSIVE SUBLIMATE



Avoid crop losses from Common Scab, Black Scurf, Blackleg and all other diseases by treating your seed potatoes according to directions in our Circular, which will be sent on request.

CALL FOR Mallinckrodt

In 5 lb., 1 lb. and ¼ lb. original boxes

ASK YOUR DRUGGIST OR DEALER

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Traction or Power for Potatoes, Celery, Grapes, or Fruit Trees.

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Our No. 22 Automatic Potato Planter has fulfilled its obligation for many years. Originated 28 years ago. The orginal Cup Feed Planter—plants the seed without sticking into or bruising. It Plants, covers, marks for the next row and sows fertilizer.

Don't fail to look it over if you are in need of a first class Planter.

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333 Sheffield Ave., **Hammond, Indiana**

Selected healthy plants harvested July 5 from a row of clean stock planted between two of diseased stock gave progenies largely free from disease, but some infection had occurred even at this date. Similar material harvested later showed much more disease. Early digging of selected healthy plants is called the only hope of recovering sound tubers from healthy plants in partly diseased stock. Seed selected in this manner has been kept healthy by growing it in isolated plots in a field of grain. Stocks thus protected from infection by virus diseases have not declined in yielding power in four years in the Dublin area where deterioration is ordinarily very rapid.

Commercial varieties that have held their place for long periods are considered to be tolerant to the virus diseases, particularly to those of the mosaic group. In other words these continue to yield relatively well and generally show few symptoms when infected, while those which decline in popularity after a few seasons are the sorts that suffer serious reductions in yield when infected. It is proposed to subject new varieties to experimental test for tolerance to virus diseases before they are offered for commercial use.

Transmission of mosaic and leafroll by aphids on sprouting tubers has been successful in some cases, but the results are inconsistent.

Further evidence is reported that leafroll, and apparently diseases of the mosaic group also, are occasonally transmitted by the true seed.—**Philip Brierley.**

XXXXXXX.—**Manuring of potatoes.**—*Jour. Min. Agr. (Gt. Brit.), 32 (1926), No. 10, pp. 883-903.*

The following articles are summaries of papers presented at a conference on the fertilizing of potatoes at Rothamsted on November 20, 1925: Manurial Requirements of the Potato Crop, by J. Russell; The Manuring of Potatoes—the Rothamsted Experiments, by T. Eden; Lincolnshire Experiments on the Manuring of Potatoes, by J. C. Wallace; and The Manuring of Potatoes—Trials in the North of England, by R. W. Wheldon.—**H. M. Steece.**

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RED RIVER CERTIFIED SEED POTATOES

SABIN, MINNESOTA

POINTS SEED FARMS

Growers Foundation Stock Seed Potatoes State Inspected and Certified

GREEN MOUNTAINS AND BLISS TRIUMPHS

6,000 bu. GREEN MOUNTAINS
SOLD OUT OF TRIUMPHS FOR THIS SEASON

CROSBY, NORTH DAKOTA

NORTHERN
IDEAL CERTIFIED IRISH COBBLER SEED POTATOES
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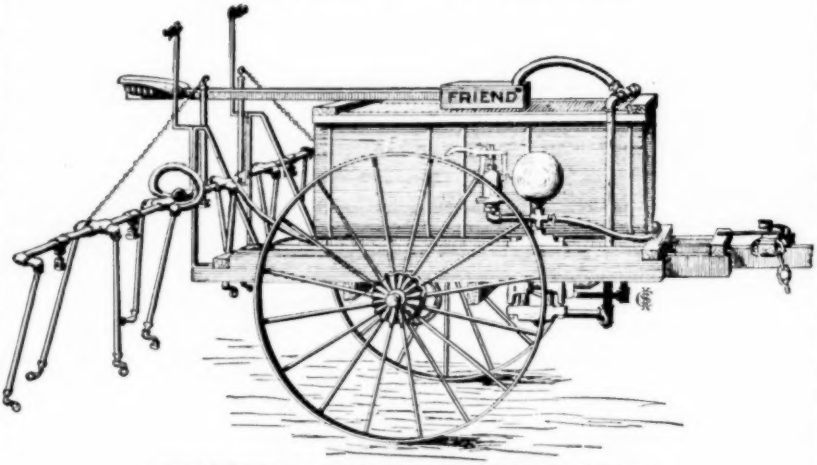
THE NORTHERN IDEAL SEED FARMS
Sudbury — Ontario

GOOD CROPS RETURN PROFITS

GOOD SPRAYERS DO THE SAME



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The "Friend" Traction potato sprayer is a motorless outfit that is a wonder for producing high pressure and maintaining it.

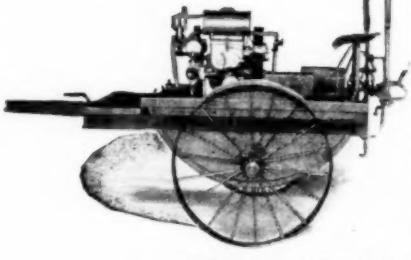
The direct eccentric drive and simple double action pumps mounted along either side of tank, give a quadruplex pump action that puts the "Friend" Traction Potato sprayer in an exclusive class.

Can be furnished with two or one double action pump as desired. Double action pump has 10 gal. per min. capacity. Single pump has 5. 100 gal. tank.

Several types of nozzle booms can be furnished for "Friend" Traction or Combination sprayers. Sizes range from 2 to 6 row and are made with 1, 2 or 3 nozzles to row, depending on type desired.

All "Friend" sprayers and accessories are built for lasting service, with only the best material.

COMBINATION



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A very economical sprayer to own as it can be used for field or orchard work with equal success.

The single unit motor-pump is a giant for work and the simplicity of the whole machine makes it pleasing to the eye and economical to operate.

Made in four motor-pump sizes; 5, 8, 10 and 12 gal. per min. pump capacity. All have 150 gal. tank.

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INOCULATED SULPHUR

IS AN ABSOLUTE REMEDY FOR POTATO SCAB

If you expect to plant potatoes in soil that is infested with scab, you can be certain of a clean crop of potatoes if you apply Inoculated Sulphur before planting. This fact has been proved by repeated tests by many experiment stations and we will be glad to furnish results of these experiments. Inoculated Sulphur is a discovery of Dr. J. G. Lipman of the New Jersey State Experiment Station and we are sole licencees under his patent.

MECHLING BROS. CHEMICAL CO.
Camden, N. J.

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ANACONDA
from mine to consumer

COPPER SULPHATE

(Blue Vitrol or Bluestone)

An Almost Chemically Pure Product Manufactured by

THE AMERICAN BRASS COMPANY

PURE ANACONDA ELECTROLYTIC COPPER AND ALMOST C. P. SULPHURIC ACID ARE USED. THE COPPER SULPHATE PRODUCED IS THE PUREST OBTAINABLE FOR MAKING

BORDEAUX MIXTURE

Distributed by

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OSPRAYMO SPRAYERS

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These sprayers are made to maintain high pressure and thoroughly cover the vines with spray solution.

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ONE USER REPORTED A YIELD OF 571 BUSHELS PER ACRE FOR 1925

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POTATOES *with the*

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Double the Dollars at digging

ONE customer using an OSPRAYMO Traction Sprayer reports a gain of 104 bushels to the acre by spraying four times with Bordeaux Mixture. This is our motto:

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High Pressure Guaranteed

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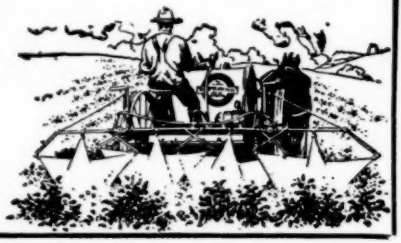

DU PONT

SEMESAN BEL

THE MODERN DISINFECTANT
FOR SEED POTATO INFECTIONS

ON PAGES 93 to 96 of the March 1926 issue of the "American Potato Journal," there appeared a description of a new and extremely effective treatment with Du Pont Semesan Bel for preventing or controlling the common seed-borne diseases of potatoes. This modern method of disinfecting seed potatoes should appeal to every farmer because it eliminates the time-consuming liquid treatments with mercuric bichloride or formaldehyde and allows instantaneous application in either the dust or liquid mixture forms.

Semesan-treated potatoes captured the Idaho State Crop Record during 1925 with a yield of 862.5 bushels per acre, which was obtained by Mr. Walter Coiner of Hansen, Twin Falls County, Idaho. Moreover, of last year's four heaviest yielding potato crops in Southern Idaho, a district noted for the quality and size of its potatoes, three of them were grown from Semesan-disinfected seeds. In producing yield increases Semesan Bel far surpasses the old type disinfectants.

Semesan Bel prevents seed potatoes rotting in the soil, repels the attacks of soil-borne organisms, promotes quicker sprouting, influences earlier maturity and improves both the quantity and quality of crop yields.

Send for this BOOKLET

The Idaho Agricultural Experiment Station reported that Semesan Bel: ". . . . when applied to the uncut presprinkled tubers (potatoes) at the rate of three ounces to the bushel gave better control under field conditions than any other treatment tested." The New Jersey Agricultural Experiment Station confirmed the Idaho results.

E. I. du Pont de Nemours & Co., Inc.,

Dyestuffs Department, Sales Division

WILMINGTON, DELAWARE

Semesan Bel is for Sale by Reliable Seedsmen

You pay once only for any Concrete Farm Improvement

x

GET TOP PRICES

When you dump your crops on the market while everyone else is doing the same thing, you are throwing away money.

YOU CAN GET "TOP PRICES"

Only by waiting until the market is no longer glutted with apples, potatoes and other produce you raise

HERE IS WHERE THE CONCRETE STORAGE CELLAR COMES IN.

Many a man who has one can tell you that its total cost was returned to him the first year by enabling him to hold his crops until prices were right.

YOU CAN EASILY BUILD A STORAGE CELLAR
OR OTHER CONCRETE IMPROVEMENTS
ON YOUR FARM BY FOLLOWING
A FEW SIMPLE DIRECTIONS

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